Reprinted from ANNALS OF GYNÆCOLOGY AND PÆDIATRY, March, 1894.

Profuse Menstruation.[1]

BY DR. CHARLES P. NOBLE,

PHILADELPHIA.

WE shall consider in this paper that profuse menstruation is synonymous with menorrhagia, or too great loss of blood at the menstrual period. Our subject will then embrace all those conditions which can give rise to this symptom. The terms profuse menstruation and menorrhagia are of practical value, and have come down to us from the older gynæcology, which was almost purely clinical, and dealt but little with the pathological conditions at the basis of symptoms.

The causes of menorrhagia are numerous. They are best grouped as constitutional, general, and local.

Among the constitutional causes we have the hæmorrhagic diathesis and scurvy. Among the general causes cardiac and hepatic diseases are the most important. Whatever will bring about a lack of tone in the general circulation will predispose to pelvic congestion and menorrhagia. Incompetency of the cardiac valves and cirrhosis of the liver are the most frequent of the general causes of menorrhagia. Chronic Bright's disease is also a cause of menorrhagia; but in such cases it is questionable whether it is the kidney-disease itself or the associated morbid condition of the blood-vessels and of the heart, which is the real cause of the profuse menstruation.

The local causes of menorrhagia are:

Pelvic congestion.
Endometritis.
Metritis.
Adenoma.
Polypus.
Fibroid tumors.
Carcinoma or sarcoma.
Retained products of conception.
Hæmatocele.

Certain diseases of the uterine appendages, especially cystic degeneration of the ovaries.

A glance at this long list of causes of menorrhagia makes it apparent that it will be impossible in a brief paper to more than glance at the nature of these conditions, and to summarize our knowledge of their treatment.

It is worthy of comment that the common causes of menorrhagia vary with the period of life to which the patients belong. In young virgins, shortly after the onset of puberty, menorrhagia at times occurs. Under these circumstances it is due to the fact that the menstrual function has not been perfectly established. There is lack of control on the part of the nervous system, both of the menstrual function itself and of the vaso-motor nerves in general. In the cases which have come under my observation this has appeared to be the cause of the profuse menstruation. These girls were plainly "growing too rapidly," they were "shooting up," and had the lax tissues characteristic of such individuals.

[1] Read before the Medical Society of the State of New York, February 7, 1894.

Menorrhagia in young childbearing women is usually due to some mishap in connection with pregnancy and parturition. An incomplete abortion, a subinvoluted uterus, laceration of the cervix, and retroversion of the uterus are the most frequent causes of menorrhagia in women of this class. Inflammatory disease of the uterine appendages is also frequently present in women at this period of their lives, and menorrhagia due to this cause, with coincident endometritis, is quite common.

Menorrhagia occurring in women approaching the forties, and in those who are older, is of very suspicious import. In younger women, as a rule, it is a symptom of some curable condition, and is of importance only because of its severity,—the loss of blood producing anæmia, and breaking down the patient's health. In older women it has a very different signification. It is almost always due to gross disease of the uterus. These women, as a class, have passed the period of childbearing, and their sexual organs are being prepared for the retrograde changes which take place at the menopause. As we know, it is a law that tissues, especially glandular tissues, which are undergoing atrophic changes, are most apt to develop malignant growths. The uterus is no exception to this rule, and cancer is extremely common among the class of women under consideration.

The ancient tradition that it is natural and proper for a woman to bleed profusely and irregularly when she approaches the period of the menopause, is the indirect cause of many preventable deaths from cancer of the uterus. This traditional belief is generally accepted by women themselves, and, unfortunately, is advocated by many physicians who have not given the subject of diseases of women much study. This teaching they received as students, and although it has long been shown to be false they have never abandoned it. It is natural that women should hold to this opinion, because it was quite current in the profession a generation or two ago. Popular beliefs are usually a fair reflex of what was the professional teaching of fifty or seventy-five years before. Believing it to be natural at their time of life, women disregard a menorrhagia when they are forty or fifty, which would cause them much uneasiness if they were twenty-five or thirty. The same is true of a leucorrhœa. In this way, but too often, carcinoma is permitted to develop to the stage of ulceration, and to that of secondary deposit, before the surgeon is consulted. Perhaps a physician is consulted at an earlier period who is a believer in the doctrine of climacteric hæmorrhages, and who soothes the patient with the assurance that there is no occasion for alarm, as "it will all come right at the change of life;" and so the poor victim rests in fancied security until she has a rude awakening a little later, and discovers that death is inevitable owing to the inroads which the disease has already made. My own experience is so distressing with reference to the management of cases of cancer that I feel very strongly upon this subject. About one-tenth of all the cases which come under my observation are the victims of cancer, and of these not more than one in ten have consulted me sufficiently early to enable me to offer any reasonable ground of hope of being able to affect a cure by a radical operation.

While it is true that cancer is a

very common, if not the most usual, cause of menorrhagia in women approaching the menopause, it is by no means the only one. Endometritis, adenoma, and fibroid tumors are also frequent causes at this period of life. It is a striking fact that whereas, in young virgins, the causes of menorrhagia usually have to do with the nervous system, and that in young childbearing women menorrhagia is usually due to some mishap connected with pregnancy, that in older women it is almost always due to gross disease of the uterus.

Treatment.—As loss of tone of the vascular system predisposes to menorrhagia, it follows that by building up the general health and improving the tone of the circulation much can be accomplished in any case of menorrhagia. Digitalis, strychnine, and ergot act directly upon the muscular structure of the heart and arteries, and lessen pelvic congestion, and can sometimes be depended upon to lessen hemorrhage from the uterus, provided the local morbid conditions are not of a very marked character.

The local treatment of menorrhagia depends, of course, upon the nature of its cause, so that the most important point is first to make a diagnosis. One of the drawbacks to the older nomenclature, to which our present title belongs, is that it does not tend to favor accurate diagnosis. There is no treatment for menorrhagia *per se*, and that fact should be distinctly emphasized. Many a woman has gone to her death from unrecognized cancer or cancer recognized too late for its eradication by operation, because the attending physician was satisfied with the diagnosis of menorrhagia, and addressed his treatment to that entity. Every case of menorrhagia deserves careful study, and this is especially true when it occurs in women who are upward of thirty years of age. A careful inquiry into the case will usually put the astute physician upon the right track. In a case of short duration, in which the amount of blood lost is inconsiderable, especially if there be no complaint of pelvic pain and no breaking down of the general health, it may be permissible to treat it upon general principles,—that is, to regulate the bowels, the habits of the individual, to treat any symptoms which may be present, to prescribe regular habits of living, and to administer digitalis, strychnine, and ergot. Especially is this the case if the patient be unmarried, and if the discharges are free from offensive odor. The physician would be the more inclined to make use of general treatment only if in such a case the heart was found to be incompetent or the liver congested. But he should not permit himself to continue the treatment without an accurate diagnosis unless the patient promptly and steadily improves.

Accurate diagnosis is the key-note to success in the management of cases in which menorrhagia is a symptom. That this is a truism makes it none the less important that it be followed out faithfully in the management of each individual case. With the exceptions already referred to, and young girls, it should be the maxim of the practitioner that every woman having menorrhagia should have a careful pelvic examination. A careful examination should be made to determine whether or not pelvic congestion is present ; the size,

shape, consistency, and position of the uterus; whether or not it be inflamed; whether it contains a tumor or the products of conception. Also the condition of the uterine appendages should be investigated. Whether or not these are healthy, and if not, the morbid condition present; whether this be a tumor, inflammatory trouble, or a hæmatocele. The condition of the general circulation, the heart and the liver should also be investigated, and in no case should an examination be considered complete until all of these conditions have been considered.

It may prove of interest if I give succinctly my own views concerning the management of the various conditions which give rise to menorrhagia.

Pelvic congestion, when not due to or accompanied by structural disease in the pelvis and when not the result of a recent parturition, is best treated by remedies addressed to the general health,—by tonics, by heart-stimulants, and by proper hygienic measures, including active out-of-door exercise. Pelvic congestion alone is seldom the cause of menorrhagia, except after parturition, but it predisposes to endometritis, and in this way indirectly becomes a cause.

Endometritis and *metritis*, when not complicated by inflammatory disease of the uterine appendages, are treated most satisfactorily by dilatation of the cervix and a careful and thorough use of the sharp uterine curette and cutting curette forceps. In this way more can be done in ten minutes than can be done in ten weeks in any other way. In my hands, in the class of cases referred to, the results obtained have been very satisfactory, and the failures to cure and the recurrences have been exceptional. While stating this in general terms, it is admitted, of course, that the final stages of areolar hyperplasia are not specially influenced by the use of the curette, or by any other form of treatment except the ablation of the uterus.

Adenoma is likewise best treated by the use of the sharp curette.

Malignant adenoma calls for pan-hysterectomy.

Polypi should be removed *per vaginam*, and the endometrium thoroughly curetted.

Fibroid tumors, which are giving rise to menorrhagia, should be removed *per vaginam* when they belong to the submucous variety and can be removed from below, otherwise they should be removed by hysterectomy.

Carcinoma and *sarcoma* of the uterus call for pan-hysterectomy whenever the disease remains localized in the uterus; otherwise a partial operation, having for its object the removal of necrotic tissue, or the prevention of hæmorrhage or foul-smelling discharge, may or may not be advisable in individual cases. When the disease has involved the pelvic glands to any considerable extent, and when pain has become a marked feature in the case, I have seldom found much benefit from operation. It may prevent or control the foul-smelling discharges, but it seldom modifies the pain, unless this has been of an inflammatory character due to septic absorption from the necrotic surface of the cancer. Every case, however, should be judged upon its merits, and, as the result in all cases which are far advanced is an inevitable and more or less painful and disgusting death, it can at least be said that

operation can hardly make matters worse, even though it fails to afford much relief.

The treatment of *retained products of conception* is their removal.

Hæmatocele is due almost always to a ruptured extra-uterine pregnancy, and should be treated by cœliotomy, removal of the pregnant tube and of the effused blood.

When endometritis and menorrhagia are produced by inflammatory disease in the uterine appendages, or by ovarian tumors, the conditions are such, as a rule, to call for cœliotomy and the removal of the diseased appendage or appendages.

Cystic degeneration of the ovaries is at times a cause of menorrhagia and metrorrhagia. A number of such cases have come under my care. In these cases the ovaries were not markedly enlarged, and upon bimanual examination, it was only possible to say that the ovaries were rather large and tender. In these cases curettement, the rest cure, and all manner of internal medication was tried without avail, as the hæmorrhages recurred very soon, and the patients were not cured until the ovaries were removed. In each of the cases cure promptly resulted.

I have as yet said nothing about the use of electricity in the treatment of menorrhagia. The advocates of electricity claim that this is perhaps the field in which it is of the greatest value, and I am inclined to believe that, for simple cases of endometritis or metritis, it is capable of effecting a cure. But the method of treatment is tedious and painful, and, when sufficiently strong currents are employed to assure the effect upon the uterus, the method is not without danger. As compared with the curette, I believe it is more dangerous, less certain, more painful, and much less satisfactory.

My own experience with the use of drugs in the treatment of menorrhagia has not been large. Digitalis, strychnine, and ergot have proved themselves in my hands to be of real value, and, except in those cases in which the local conditions have been so bad as to make it irrational to expect much effect from constitutional remedies, the results from the use of these agents have been satisfactory. My experience with other drugs has been small. Hydrastis canadensis has been used to some extent, and I have never been able to satisfy myself that it has the slightest action in the way of controlling uterine hæmorrhages.

There are two other forms of treatment of value, especially in bridging over an emergency in the treatment of cases of menorrhagia. These methods are systematic rest in bed and the use of the vaginal tampon. With the exception of those cases in which menorrhagia is due to malignant disease, to adenoma, or to the retention of the products of conception, rest in bed has a very positive influence in lessening the amount of blood lost. It is of practical value chiefly in the management of cases which are seen late, after so much blood has been lost that the patients are suffering from acute anæmia and profound prostration, so much so that it might not be safe to anæsthetize them in order to institute any radical method of treatment. This reference applies especially to cases of fibroid tumor. I have again and again in such cases, when consulted under the

circumstances referred to, been able to greatly improve the condition of the patients by putting them to bed, keeping their bowels regular, and perhaps administering strychnine, digitalis, and ergotine. I have in this way been enabled a number of times to do hysterectomy with success, when I am satisfied, had the operation been performed when the patient first came under observation, the result would have been fatal.

In certain cases the use of the vaginal tampon is of great service in temporarily arresting hæmorrhage. In the class of cases just referred to, when the bleeding is aggravated by the onset of the menstrual period, by firmly tamponing the vagina during the days when hæmorrhage otherwise would be most free, it is quite possible to limit the loss of blood to a very small quantity. This has been advocated as a systematic means of managing certain otherwise intractable cases of menorrhagia, and I can add my testimony to its value, at least as a temporary expedient in the management of certain cases of uterine hæmorrhage.

The ligation of the uterine arteries offers another means of controlling hæmorrhage from the uterus, no matter what the immediate cause of the hæmorrhage may be. As a preliminary operation, in dealing with a small class of fibroid tumors, in which a large amount of blood has been lost, and in which acute anæmia is present, this operation offers much. Likewise in certain cases of persistent hæmorrhage after the removal of the uterine appendages, in combination with thorough curettement of the uterus, I believe that this procedure will be of great value.

Certain cases of persistent and recurrent hæmorrhage have come under my observation, which have resisted all the usual methods of treatment. In such cases the cause is usually malignant adenoma. When the microscope clearly shows this to be the case, or when the trouble recurs time and again, after thorough curettement of the uterus, even though the microscope does not demonstrate the presence of malignancy, hysterectomy is indicated. In such cases it is a life-saving measure to prevent death from hæmorrhage. In cases in which the microscope does not show malignancy, it would be proper to make use of electricity, after the failure of curettement, before resorting to hysterectomy. In one case in which curettement repeated three times failed to cure, and in which the removal of the somewhat diseased uterine appendages (cystic ovaries, catarrhal salpingitis) likewise failed to cure, this result was accomplished by packing the uterus with gauze squeezed out of 50 per cent. chloride of zinc solution, which brought away a slough of the endometrium, and a part of the underlying muscularis. This very radical and somewhat hazardous method of treatment I should recommend only in exceptional cases, and not in any case in which the appendages have not been previously removed.

I have as yet made no mention of the treatment of menorrhagia by the application of carbolic acid, iodine, perchloride of iron, nitric acid, or other caustics to the endometrium, either by means of a cotton-wrapped applicator or a uterine syringe. The reason for this omission is that I believe these methods to be either inefficient or dangerous or both. The

milder escharotics are inefficient; the more powerful are dangerous in that their action cannot be controlled within conservative limits. The experience of the generation preceding us has so well demonstrated the dangers attendant upon this form of treatment that it is unnecessary for us to go over the same ground.

Conclusions.—(1) Menorrhagia in young virgins is usually functional, due to disturbances in the vaso-motor nervous system, or to relaxation of the tissues; in general caused by the rapid growth which at times takes place about the time of puberty. Because of its pathology menorrhagia in young virgins is usually curable by general treatment.

(2) Menorrhagia occurring in young childbearing women is usually due to some mishap in connection with pregnancy or parturition, such as the retention of products of conception, laceration of the cervix or perineum, retro-displacement of the uterus, subinvolution, inflammation of the uterine appendages, and pelvic congestion. Menorrhagia in this class of women is curable. It usually requires local treatment of an operative nature. When due to subinvolution and malpositions of the womb, operation is unnecessary.

(3) Menorrhagia in women approaching the forties and in those who are older is usually due to gross diseases of the uterus, such as fibroid tumors, polypi, adenoma, or malignant tumors. Menorrhagia occurring in this class of women, except when due to advanced malignant disease, is curable, but almost invariably requires operative treatment applicable to the disease present in the particular case.

(4) As menorrhagia is a symptom and not a disease, an exact diagnosis is requisite in every case. With the exception of young virgins it is desirable that a physical examination of the pelvic organs be promptly made. The importance of this examination is the greater with the increasing age of the patient. Special considerations should influence the practitioner to postpone the local examination in the unmarried unless it be reasonably certain from the symptoms that gross local disease is present.

(5) There is no treatment for menorrhagia *per se*. By general measures, such as rest in bed and the use of digitalis, strychnine, and ergotine, pelvic congestion can be lessened, and in that way menorrhagia can be, at least in part, controlled; but it cannot be too strongly insisted upon that in every case of menorrhagia an exact diagnosis must be made and the appropriate treatment addressed to the disease which is present.